Appl. No.: 10/003,574
Amdt. dated 03/02/2005
Reply to Office action of November 2, 2004

REMARKS/ARGUMENTS

This Amendment is responsive to the Final Office Action dated November 2, 2004. Claims 1 – 12, 14, 15 and 26 were previously pending in the application. Claims 1 – 12, 14, 15 and 26 are rejected. By way of this amendment, the Applicant has cancelled Claim 7 and amended Claims 1 and 11. Accordingly, claims 1 – 6, 8 – 12, 14, 15 and 26 are currently pending.

Claims 7 and 11 were rejected under 35 U.S.C. 112, first paragraph. Claim 7 has been canceled. Claim 11 has been amended to reflect that the coefficient (kk) is selected from a numerical range rather than calculated as suggested by the Office Action. Support for the amendment of Claim 11 is provided in paragraph [0050] of the originally-filed specification. Thus, Claim 11 complies with the written description requirement and the rejections under 35 U.S.C. 112, first paragraph, have been overcome.

Claims 1-12, 14, 15, and 26 were rejected under 35 USC §103 as unpatentable over Baines taken with Musow.

There is no motivation to combine the Baines and Mosow references and, even if the teachings of the references were combined, the result would not teach every element of the claimed invention. The Office relies upon Baines as teaching computer control of a causticizing process. However, Baines differs from the claimed invention in at least two aspects. First, Baines fails to disclose the measurement of total titratable alkali (TTA) in a green liquor as a process parameter. Second, the system of Baines exerts control by controlling lime added to a slaker (Abstract) rather than controlling green liquor density as recited in Claim 1.

Mosow discloses using conductivity measurements to determine concentrations of sodium carbonate in a green liquor solution and using the measurement to control the amount of weak wash solution added to the green liquor. Mosow states that conductivity measurements are superior to indirect measurements such as TTA measurements of the green liquor. (col. 2, ll. 45 – 65)

By teaching that TTA measurements are inferior, Mosow teaches away from the use of using TTA measurements of a green liquor for control purposes, and one of skill in the art would not be motivated to combine the TTA measurements of Mosow with a control system such as the

Baines system. Further, even if the TTA measurements of Mosow were combined with the Baines control system, the result of the disclosed system remains control of lime added to a slaker rather than control of green liquor density as recited in Claim 1. Thus, the proposed combination of the references, even if assumed to be proper, fails to teach or suggest control of green liquor density using measured TTA of the green liquor.

In response to previous arguments showing the distinctions of the Claims from the cited references, the Office has responded that the "the last step of controlling the green liquor density is actually merely a step of feeding in the lime [to the slaker] – it is the density of the solution mix which is thus controlled, not the density of the green liquor." This characterization of the invented process is in direct contradiction to the recited process step of "controlling the density of the green liquor..." (Claim 1). Nonetheless, Claim 1 has been further amended to more clearly set forth the distinctions between the Claim and the references. As shown in amended Claim 1, feeding lime to the slaker has nothing to do with controlling the density of the green liquor according to the invention.

In the invention, the input of green liquor is stabilized by controlling the amount of weak white liquor added to the green liquor. The density of the green liquor is controlled towards a set value and the set value is specified based on the total titratable alkali. Thus, in the invention both the measuree density and the measuree total titratable alkali are used for controlling the density of the green liquor. Neither cited reference teaches or suggests controlling the density of the green liquor such that both the measurement result of the density and the measurement result of the total titratable alkali are used.

The invented method is not merely an optimization of a control method. As discussed above, Claim 1 clearly recites a series of method steps that are not disclosed in the cited references. Regarding optimization, the parameters measured by the Claimed method are not arbitrary alternatives to parameters measured by methods of the prior art. Rather, the invention recognizes that the measurement of density is not very accurate, but is continuous, while the measurement of total titratable alkali is very accurate but it is not continuous. By combining these two measurements, as claimed, superior control characteristics are achieved by the invented process.

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Applicant respectfully submits that the 35 U.S.C. 103 rejection has been overcome by Applicant's showing that there is no motivation to combine the cited references and that the references, even if combined, would not teach the invention as claimed.

Applicant appreciates the Examiner's consideration and admission of the amended claims which do not raise new issues, but which, instead, further clarify the Claims and emphasize the distinctions between the Claims and the cited references. In view of the amended claims and the remarks submitted above, it is respectfully submitted that the present claims are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present application.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,

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CERTIFICATION OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being facsimile transmitted to the U.S. Patent and Trademark Office Fax No. (703) 872- 9306 on the date shown below.

Tamara Stevens — March 2, 2005
Tamara Stevens — Date

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